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Job design in temporal context: a career dynamics perspective

YITZHAK FRIED[1]*, ADAM M. GRANT[2], ARIEL S. LEVI[3], MICHAEL HADANI[4] AND LINDA HAYNES SLOWIK[5]

[1]*Management Department, Whitman School of Management, Syracuse University, Syracuse, New York, U.S.A.*
[2]*Department of Organizational Behavior and Strategy, Kenan-Flagler Business School, University of North Carolina at Chapel Hill, North Carolina, U.S.A.*
[3]*Department of Business, School of Business Administration, Wayne State University, Michigan, U.S.A.*
[4]*Department of Management, Long Island University, CW Post Campus, Brookville, New York, U.S.A.*
[5]*Department of Psychology, University of Detroit Mercy, Michigan, U.S.A.*

Summary Leading theories of job design have neglected to incorporate the important context of time into their premises, hindering these theories' explanatory power and utility. We demonstrate how systematically incorporating the context of time, in relation to the specific example of career dynamics, will improve our understanding of job design. We discuss the contribution of time by examining how career dynamics may influence employees' reactions to stimulating jobs and their propensity to craft more stimulating jobs. Copyright © 2007 John Wiley & Sons, Ltd.

Introduction

Job design has generated much interest in recent decades (Fried & Ferris, 1987; Parker, Wall, & Cordery, 2001). A basic premise in job design research is that stimulating jobs are associated with motivating psychological states that contribute to favorable attitudinal and behavioral work outcomes (e.g., Morgeson & Campion, 2003; Parker & Wall, 1998). Much of the contemporary research on job design has been based on the Job Characteristics Model (JCM; Hackman & Oldham, 1976, 1980). The JCM focuses on five core job characteristics (skill variety, task identity, tasks significance, autonomy, and job feedback) that contribute to job stimulation, and consequently to three critical psychological states (experienced meaningfulness, experienced responsibility, and knowledge of results), which, in turn, positively affect individual work motivation, satisfaction, and performance. In addition, three factors are proposed to moderate these relationships: individual growth need strength (GNS), knowledge and skills, and context satisfaction with respect to supervisors, peers, compensation, and job security.

* Correspondence to: Yitzhak Fried, Management Department, Whitman School of Management, Syracuse University, 721 University Avenue, Syracuse, NY 13244-2450, U.S.A. E-mail: yfried@syr.edu

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However, job design research has revealed mixed results on the relation between stimulating job characteristics and work outcomes such as job performance, turnover, and absenteeism (Fried, 1991; Fried & Ferris, 1987; Kopelman, 1985; Oldham, 1996; Parker et al., 2001). These inconsistent findings suggest that context may play an important role in moderating employee reactions (Johns, 2006; Rousseau & Fried, 2001). In addition, while research supports the hypothesized relations between stimulating job characteristics and attitudinal outcomes such as internal work motivation and job satisfaction, the magnitude of the relationship between the core job characteristics and these attitudinal outcomes appears to be moderate rather than high (Fried, 1991; Fried & Ferris, 1987; Johns, Xie, & Fang, 1992; Parker et al., 2001). Scholars have begun to explain these results by observing that job design theory and research suffer from a lack of systematic attention to context—the situational opportunities and constraints that affect attitudes and behaviors (Johns, 2006). Indeed, several scholars have recommended that researchers systematically incorporate contextual factors into job design theory and research (e.g., Kelly, 1992; Liden, Wayne, & Sparrowe, 2000; Parker et al., 2001; Rousseau & Fried, 2001; Torraco, 2005; Wall, Cordery, & Clegg, 2002). Several scholars have examined how incorporating various contextual factors—such as technology, operational and environmental uncertainty, information technology, group norms and group characteristics, and social interactions and relationships—may advance our understanding of job design (e.g., Andreou & Boone, 2002; Campion, Papper, & Medsker, 1996; Grant, Campbell, Chen, Cottone, Lapedis, & Lee, 2007; Kelly, 1992; Liden et al., 2000; Morgeson & Humphrey, 2006; Parker & Wall, 1998; Parker et al., 2001; Wall et al., 2002).

Nevertheless, job design theory and research has largely overlooked time as an important context. Time is a fundamental dimension of context, as it specifies when situational constraints and opportunities occur and how they are perceived (Johns, 2006). Time is increasingly being recognized as a critical variable that should be incorporated into theories of work attitudes and behaviors (e.g., George & Jones, 2000; McGrath & Tschan, 2004; Mitchell, 1997). The failure to include time in job design theory may limit the theory's ability to accurately predict individual attitudes and behaviors in organizations, which are influenced by events that have happened in the past, are occurring at present, and may occur in the future (e.g., George & Jones, 2000; McGrath & Tschan, 2004). After all, employees' jobs, attitudes, and behaviors develop and change over time. Unfortunately, most job design theory and research is static in nature and fails to incorporate time into its premises, thereby reducing the predictive power and utility of job characteristics (George & Jones, 2000).

In this paper, we attempt to fill this gap by examining job design in the context of time. To provide a theoretical framework for this examination, we draw on career dynamics research, which considers the temporal perspectives of past, present, and future (e.g., Levinson, 1986; Super, 1980). This focus on career dynamics is useful because it integrates the constructs of job characteristics and time (see Hall & Chandler, 2005). Career dynamics may refer to both processes of development within a job or a position over time, as well as across jobs or positions over the individual life cycle (Blau, 1999; Hall, 1996; Super, 1980). In today's unpredictable career environment, factors such as globalization, downsizing, and technological advances bring about periods of uncertainty and change, which are likely to affect employees' jobs and experiences at both present and future career stages (e.g., Feldman & Bolino, 1996). As career changes and job transitions become increasingly frequent, individuals' reactions to their jobs are likely to be shaped in powerful ways by how they expect their careers to develop over time (Hall & Chandler, 2005).

We build on these insights to accentuate how incorporating the context of time, in the case of individual career dynamics, may improve the explanatory power and utility of job design theory. Our propositions suggest that employees' reactions to stimulating jobs, and their efforts to craft more stimulating jobs, may depend on temporal aspects of their career aspirations and expectations. Our paper thereby takes a valuable step toward placing job design theory and research in temporal context.

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Individual Career Dynamics and the Context of Time

Two perspectives have dominated discussions of time in the organizational and social sciences: the absolute (objective) view and the relativistic (subjective) view. Both of these time perspectives play an integral role in the development of individual careers. The objective or absolute perspective, also known as clock time, views time as continuous (linear advancement from past to present to future), homogeneous (all units of time, such as seconds, are alike), infinitely divisible, objective, and universal (which reflects a single interpretation) (e.g., Bluedorn & Denhardt, 1988; Slife, 1993). The subjective or relative perspective suggests that time involves multiple perspectives, is cyclical (rather than linear), is uneven (rather than homogeneous), and is concrete and relational—its meaning is relative to the surrounding context (rather than abstract and absolute) (e.g., Jones, 1988; Laurer, 1981; McGrath & Kelly, 1986).

The absolute view, which reflects the perception of time as a scarce and measurable resource, is dominant in American and other Western cultures (McGrath & Rotchford, 1983). Different societies and cultures have different time perspectives, or orientations, with respect to their emphasis on the past, present, and future (Hall & Hall, 1987; Schein, 1992). Whereas some societies emphasize the past or the present, Western cultures, which are the focus of our analysis, are future-oriented. Here, time is viewed as a straight line, in which the past is gone, the present is here briefly, and the infinite future is upon us (e.g., McGrath & Rotchford, 1983). The absolute view, with its linear perspective on time, has received some attention in organizational theory and research relevant to job design (e.g., Arthur, Khapova, & Wilderom, 2005; Hambrick & Fukutomi, 1991; Heslin, 2005; Katz, 1978, 1980). For example, Katz (1978, 1980) has proposed and found that employees' interest in challenging tasks differs according to their career stages, being higher earlier in their career and lower later in their career. Hambrick and Fukutomi (1991) described a similar pattern of career tenure for CEOs.

However, the incorporation of time into job design theory and research has been limited. For example, scholars have made few attempts to explore the effect of future expectations and plans concerning the development and growth of job characteristics on employee reactions to job characteristics in the present. Interestingly, a major focus of careers research is on the issue of future planning, which often involves delayed gratification in the present for the sake of future benefits, including, for example, greater autonomy, responsibility, and decision discretion at work (e.g., Hall, 1996; Hesketh, Watson-Brown, & Whiteley, 1998; Saunders & Fogarty, 2001; Schoenfelder & Hantula, 2003). In future-oriented societies, such as the US and European societies, people often adopt future-oriented career plans, in which they incur sacrifices in the present as a stepping stone for the future. The assumption here is that people are likely to delay present gratification or temptation if the future payoff is sufficiently high to warrant such a delay (e.g., Schoenfelder & Hantula, 2003). In other words, employees often agree to lower levels of autonomy, responsibility, and discretion earlier in their careers for the sake of gaining them later on. On the other hand, employees' interest in complex and demanding jobs is expected to decline at later stages of their careers (e.g., Hambrick & Fukutomi, 1991; Katz, 1978, 1980). As their interest in challenging jobs declines and their interest in other issues (e.g., family, leisure) increases, employees may develop expectations for a gradual decrease in job demands.

Moreover, past and present experiences are important determinants of the individual evaluation of the expected future payoff for delayed gratifications and its valence (Fried & Slowik, 2004; Hassard, 1996). These elements of time experience and future expectations and planning are relevant to both career development within a job and across jobs (e.g., Blau, 1999; Hall 1996), and may combine to influence employees' motivation, effort, and performance at the present time (Avital, 2000; Pettigrew, 1997; Pettigrew, Woodman, & Cameron, 2001; Van de Ven, 1992).

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Career expectations and planning also involve the subjective or relativistic aspects of time (e.g., Fried & Slowik, 2004; Hassard, 1996). While the absolute time perspective represents the dominant view in the Western world, there is a growing recognition in the literature of the value of the relativistic perspective for furthering our knowledge and understanding of important work and social phenomena (e.g., Ancona, Goodman, Lawrence, & Tushman, 2001; Fried & Slowik, 2004; Lee & Liebenau, 1999; McGrath & Rotchford, 1983; Slife, 1993; Zellmer-Bruhn, Gibson, & Aldag, 2001). Because from this perspective, time is concrete and relational, a person's decision to delay gratification at present for the sake of future gains relates not only to the valence of the future rewards, but also to whether the length of delay is perceived to be appropriate for the value of the desired future outcomes. Whether the delay is considered 'adequate' or 'too long' is subjective and depends, for example, on the norms for a particular occupation or career path, as well as on individual personality and beliefs (Bluedorn & Denhardt, 1988; Fried & Slowik, 2004). For example, 4 years in graduate school is normatively considered reasonable for a degree that is essential for future development, while 4 years in a management trainee program would be normatively considered too long for the job of a line manager. Moreover, individuals high in future orientation may perceive long periods of delayed gratification as reasonable, while more present-oriented individuals may perceive the same time period of delay as too long.

A Career Dynamics Model of Reactions to Job Design

The JCM posits a positive relationship between core job characteristics and favorable job attitudes, most notably internal work motivation and job satisfaction. The general mechanism assumed to explain these favorable attitudinal reactions to core job characteristics is the experience of stimulation resulting from carrying out complex, challenging, and engaging tasks (e.g., Morgeson & Campion, 2002, 2003). However, the literature on careers suggests that individuals' reactions to their job may be affected not only by their current job characteristics, but also by their career perspectives (Hall & Chandler, 2005). In the following sections, we examine how the objective and subjective time perspectives, as they are incorporated into the career dynamics of the individual, advance our understanding of employee reactions to job design. We first discuss how individuals' reactions to their current job characteristics are contingent on objective and subjective time elements as they relate to a particular job or a multiplicity of jobs over career spans. We then discuss how individual career dynamics may influence active efforts by employees to craft more stimulating jobs. In Figure 1, we present our model specifying how career dynamics may affect employees' reactions to stimulating jobs and their propensities to craft more stimulating jobs.

Attitudinal reactions as a function of objective time in career dynamics within a job

The careers of professional employees typically involve several stages (Hall, 1996; Thompson, Baker, & Smallwood, 1986). Most relevant to our discussion here are the first two stages of the Thompson et al. model (see also Blau, 1999). In the first stage, professional employees are expected to focus on routine work, in which they are closely supervised (low autonomy), assignments are part of a larger project or activity (low task identity), and employees must gradually learn the skills required to accomplish more complex tasks (relatively low skill variety). In the second stage,

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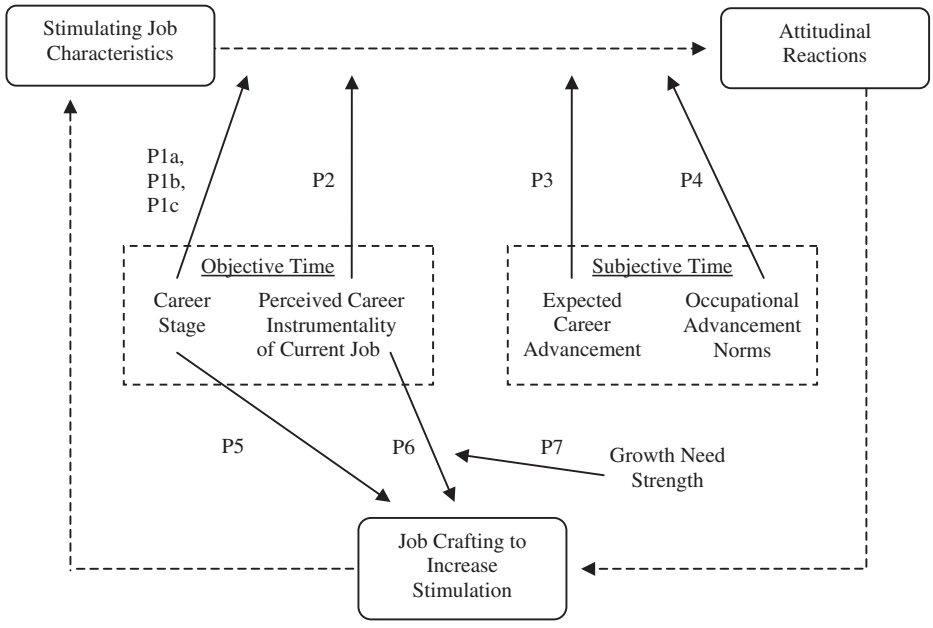

Figure 1. A Career Dynamics Model of reactions to job design. *Note*: dashed arrows represent paths assumed on the basis of prior research but not developed in this paper

professional employees are involved independently (high autonomy) in complex tasks that require the application of multiple skills (high skill variety) and leave them responsible for a definable portion of the project and its process (high task identity). Bailyn (1981) argued that such stage-based career models that emphasize training and learning over time are likely to result in lower burnout, as well as preventing mid-career crises, as professional employees develop relevant knowledge and skills over time and arrive prepared for increasing job and career demands.

Thus, employees at early career stages may respond favorably to situations in which their jobs are designed to provide relatively low stimulation, as they expect that their jobs may become increasingly stimulating, challenging, and complex over time. Indeed, in a study of medical technologists, Blau (1999) found that routine task responsibilities were associated with higher levels of professional commitment in the first 4 years of employees' careers, whereas advanced professional research activities were negatively associated with professional commitment during the same time period. This pattern should also hold for other professions that have lower requirements for formal education. For example, chefs' careers may involve an early apprenticeship stage characterized by relatively low skill variety, task identity, and autonomy, followed by a full professional phase characterized by higher levels of these same job characteristics. We therefore propose:

Proposition 1a: Career stage moderates the effect of stimulating job characteristics on attitudinal reactions, such that employees are more likely to respond favorably to a lack of job stimulation at early career stages.

Later in their careers, employees are likely to develop preferences to experience particular forms of stimulation and avoid other forms of stimulation. As employees approach midlife, the ends of their careers and their lives become increasingly salient, and they begin to reflect more often on the impact of their work on other people, the organization, and society (McAdams & de St. Aubin, 1992). Employees

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in later career stages become more concerned with building meaningful relationships (Carstensen, Isaacowitz, & Charles, 1999) in which they can make lasting contributions that outlive themselves, benefit future generations, and build a legacy (Wade-Benzoni, 2006). Thus, employees in later career stages are likely to display particularly favorable responses to task significance—opportunities to have a positive impact on other people—as a path to building relationships and making meaningful, lasting contributions that are appreciated and valued by others (Grant, 2007; Grant, in press). We therefore propose:

Proposition 1b: Career stage moderates the effect of stimulating job characteristics on attitudinal reactions, such that employees are more likely to respond favorably to high task significance at later career stages.

On the other hand, employees in later career stages are likely to lose some interest in demanding jobs (Katz, 1978, 1980; Hambrick & Fukutomi, 1991). As employees age, cognitive demands and multiple tasks become more difficult to manage, and they become more selective about where to expend their mental energy (Baltes, Staudinger, & Lindenberger, 1999). Employees in later career stages are thus less likely to respond favorably to high levels of complexity, task variety, and skill variety. We therefore propose:

Proposition 1c: Career stage moderates the effect of stimulating job characteristics on attitudinal reactions, such that employees are less likely to respond favorably to complexity, task variety, and skill variety at later career stages.

Attitudinal reactions as a function of objective time in career dynamics across jobs

In the emerging global economy, employees can be expected to change organizations and jobs significantly more often than in the past (e.g., Arthur & Rousseau, 1996), which increases the number of transitional learning periods that employees experience (Sitkin, 1992; Wrzesniewski & Dutton, 2001). Similarly, Hall (1996) argued that in the 21st century, careers would consist of relatively short learning stages to assure employability in a labor market characterized by a shift from those with know-how to those with learn-how. While levels of stimulating job characteristics such as autonomy, skill variety, and task identity may be lower during these learning periods in new jobs, employees may nevertheless react more favorably, as they recognize that the relatively low levels of job characteristics are temporary in nature, and will improve when transitory learning periods end (Hassard, 1996, see also Super, 1980). Similarly, in more traditional career patterns characterized by a lifelong series of developmental stages, employees may be satisfied with simple, non-stimulating jobs because they expect that these jobs will serve as a stepping stone to more challenging jobs in the future (Fried & Slowik, 2004; Levinson, 1986; Super, 1980). Therefore, we propose:

Proposition 2: The perceived career instrumentality of current jobs moderates the effect of stimulating job characteristics on attitudinal reactions, such that employees are more likely to respond favorably to a lack of job stimulation when they perceive their jobs as enabling career advancement.

Subjective time perspectives and delayed gratification

What are the boundary conditions for accepting and tolerating delay of gratification? More specifically, when will individuals perceive a delay of gratification when working in non-stimulating jobs as

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excessive? Theoretically, employees' decisions to delay gratification by accepting less stimulating jobs at present in order to advance to more stimulating jobs in the future can be discussed in reference to the concept of delayed discounting (e.g., Chapman, 1996; Hesketh et al., 1998; Saunders & Fogarty, 2001; Schoenfelder & Hantula, 2003). Delayed discounting implies that the value of future outcomes (e.g., challenging tasks, higher salaries) is decreased in comparison to the same outcomes in the present (e.g., a dollar today is worth more than a dollar a year from now). The value of outcomes is discounted more significantly as a function of the time of expected attainment, as achieving outcomes further in the future has diminishing marginal utility (e.g., Bazerman, Tenbrunsel, & Wade-Benzoni, 1998). Whether the waiting time for achieving a stimulating job is perceived as acceptable or too long is subjective in nature, and often contingent upon occupational norms (see below). However, the concept of delayed gratification suggests that individuals may choose to pursue less stimulating jobs if they expect these jobs to enable them to advance in what they define as the near future. Therefore, we propose:

Proposition 3: Expected career advancement moderates the effect of stimulating job characteristics on attitudinal reactions, such that employees are more likely to respond favorably to a lack of job stimulation when they expect to advance in the near future.

Different occupations have different norms with regard to the expected time interval between career stages. These occupational career norms define what constitutes 'short,' 'adequate,' and 'long' delays between career stages (e.g., Fried & Slowik, 2004; McGrath & Tschan, 2004). For example, in sales jobs, the transfer from the beginning stage to the more complex stages in which one achieves competence in most aspects of the job is relatively short, typically ranging from several months to a year. In contrast, professionals in medicine and in high-tech industries often spend significantly more time, typically several years, in learning stages before achieving competence in more complex assignments (Hall, 1996). It can be expected that employees who move from one career stage to another will react favorably to less stimulating jobs if, on the basis of occupational norms, they expect to move to the next stage on time or earlier. However, if these employees expect to stay at their first career stages significantly longer than occupational norms dictate, they are likely to perceive this time interval as too long, and thus will respond more negatively to jobs that lack stimulation. Therefore, we propose:

Proposition 4: Occupational advancement norms moderate the effect of stimulating job characteristics on attitudinal reactions, such that employees are more likely to respond favorably to a lack of stimulation when their advancement occurs within typical time frames for their occupations.

Dynamic changes in job characteristics

An important premise of the JCM is that jobs, and the extent to which they have higher versus lower levels of the core job characteristics, are determined by the organization. Furthermore, for any job, the levels of core job characteristics are assumed to remain stable over time, unless they are changed by the organization (Hackman & Oldham, 1980). Early job design theory and research thus did not explicitly consider the possibility that job incumbents may, on their own initiative, change the characteristics of their jobs over time (e.g., Fried, Hollenbeck, Slowik, Tiegs, & Ben-David, 1999; Ilgen & Hollenbeck, 1991; Wrzesniewski & Dutton, 2001).

However, theoretical frameworks and research programs developed since the introduction of the JCM strongly suggest that employees do actively change their job characteristics over time, thereby contributing to changes in work outcomes. For example, in their theory of work adjustment, Dawis and Lofquist (1984) discuss the role of 'activeness' by the job incumbent in the process of changing the

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environment to achieve better fit. Likewise, on the basis of leader–member exchange theory, Graen and Scandura (1987) discuss how job incumbents negotiate changes in job responsibilities with their superiors. Similarly, in their job-role differentiation theory, Ilgen and Hollenbeck (1991) discuss how incumbents are involved in negotiating 'emergent task elements' toward 'amendments' of their original job descriptions. In this spirit, researchers have suggested (Nicholson, 1984) and found (Ashford & Black, 1996; Black & Ashford, 1995) that employees often alter their jobs and roles to create fit with personal and contextual expectations. Finally, Wrzesniewski and Dutton (2001) argued that individuals act as job crafters by psychologically redefining and behaviorally altering the task and relationship boundaries of their jobs. Based on these theoretical frameworks and bodies of research, one can expect that employees will be actively involved in crafting their jobs under a variety conditions. Below, we examine how career dynamics likely affect employees' efforts to craft more stimulating jobs.

In general, employees in jobs that lack stimulation and challenge are likely to be motivated to craft more stimulating, challenging jobs (e.g., Wrzesniewski & Dutton, 2001). The increased complexity in one's job due to crafting may involve, for example, voluntarily learning new skills (higher skill variety) that would enable the employee to handle new assignments; accepting increased responsibility for the totality of assignments (higher task identity), or taking on increased latitude in decision making (higher autonomy). However, crafting a job requires employees to invest time, energy, and effort, and this expenditure may be perceived as more worthwhile under some career stages than others. Here, we propose that employees are more likely to craft their jobs to increase stimulation in earlier stages of their career (relative to later stages of their career) because at later stages, as discussed previously, their interest in complex and demanding jobs is expected to decline (e.g., Hambrick & Fukutomi, 1991; Katz, 1978, 1980). Therefore:

Proposition 5: Employees are more likely to engage in job crafting to create more stimulating jobs at earlier stages than later stages of their careers.

We also predict employees may be more likely to craft their jobs to increase stimulation when they see their current jobs as instrumental to career advancement, in which case they may seize the opportunity to convince managers that they are capable of succeeding in more challenging jobs. These employees will seek to demonstrate that they can handle increased responsibility and complexity, and that they deserve a promotion (e.g., Hui, Lam, & Law, 2000). Accordingly, they are likely to request from supervisors (Fried et al., 1999) or create for themselves (Wrzesniewski & Dutton, 2001) more stimulating, complex tasks in order to prove that they are prepared for more challenging jobs.

Proposition 6: Employees are more likely to engage in job crafting to create more stimulating jobs when they perceive their current jobs as instrumental to career advancement.

We further expect that individual differences in growth need strength (GNS) are likely to moderate this proposed relationship between perceived career instrumentality and job crafting to increase stimulation. GNS refers to the extent to which employees value learning, developing, and increasing their knowledge and skills (Hackman & Oldham, 1976). For employees with high GNS, stimulating jobs are an important source of need fulfillment (Johns et al., 1992). Accordingly, even when employees with high GNS do not see their current jobs as instrumental to career advancement, or if they expect that their advancement will take longer than what they consider as adequate or acceptable based on their occupational norms and personal career expectations, they are likely to seek stimulation by crafting more stimulating jobs. In fact, for employees with high GNS, job crafting to increase stimulation may serve as an effective mechanism for personal growth and development when opportunities for advancement are lacking. For employees with low GNS, on the other hand, stimulating jobs are less intrinsically appealing (Graen, Scandura, & Graen, 1986). Thus, employees

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with low GNS are only likely to craft more challenging jobs when they see their current jobs as instrumental to career advancement. We therefore propose:

Proposition 7: GNS moderates the effect of perceived career instrumentality on job crafting to create more stimulating jobs. The higher the GNS, the weaker the positive association is between perceived career instrumentality and job crafting to increase stimulation.

Discussion

A major weakness of leading theories of job design and work motivation is that they tend to be relatively static, failing to incorporate the important context of time (e.g., Avital, 2000; Fried & Slowik, 2004; George & Jones, 2000; Pettigrew et al., 2001). In an era of increased globalization and dynamic change associated with constant generation and application of new knowledge and rapid changes in individuals' careers, the failure to incorporate the context of time may seriously affect the validity and explanatory power of these theories. In this paper, we have attempted to demonstrate how systematic incorporation of the context of time into theories of job design, in the specific case of individual career dynamics, can improve our understanding of employees' reactions.

Time as a contextual feature of job design

Our paper highlights the value of a temporal perspective for advancing our understanding of reactions to job design. We have taken a step toward explaining how employees' reactions to job design may differ as a function of temporal contexts that play out in career dynamics. We proposed that employees' attitudinal and behavioral reactions to job design may be more complex than originally proposed, as they may be contingent on career dynamics that unfold over time. Our propositions suggest that employees may react more favorably to jobs that provide little stimulation early in their careers, if they perceive their current jobs as instrumental to career advancement, if they expect to advance in the near future, and if their advancement occurs in line with occupational norms. We also suggest that in later career stages, employees are likely to develop preferences for some stimulating job characteristics (task significance) and against others (task and skill variety, complexity). We further suggest that employees are more likely to engage in job crafting to increase stimulation when they perceive their current jobs as instrumental to career advancement. However, we argue that the positive association between job crafting to increase stimulation and perceived career instrumentality is significantly weaker for individuals with higher GNS than for individuals with lower GNS.

Thus, rather than assuming that less stimulating jobs are always associated with unfavorable attitudinal outcomes, we developed theory to explain how career dynamics can enable individuals to maintain their motivation and satisfaction while working in less stimulating jobs. Our propositions suggest that employees may do so by looking to the future, recognizing the value of current jobs for advancement, and by crafting more stimulating jobs when they do not expect to advance. Our paper thereby offers new insights into how incorporating the context of time, with a specific focus on career dynamics, can extend existing knowledge about job design.

The role of objective and subjective time perspectives

In our analysis, we have focused on both the absolute (objective) and relativistic (subjective) views of time. We expand here on the importance of the context of both time perspectives as they relate to the

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core job characteristics in the JCM. In many jobs, employees lack the skill variety, task significance, task identity, and autonomy that are proposed to contribute to internal work motivation and job satisfaction through their effects on the psychological states of experienced meaningfulness and responsibility. For example, new accountants often begin with relatively narrow tasks that require few skills, have little impact on others, and are closely supervised. Similarly, new engineers and management trainees often have little decision-making responsibility while learning narrow subsets of tasks that require a small set of skills and benefit few people. Although traditional job design theory assumes that employees tend to react negatively to jobs low on these four dimensions, taking time perspective into account may lead to different predictions. In these examples, objective (clock) time plays an important role in the sense that while employees are initially involved in tasks that are low in variety, significance, identity, and autonomy, as their careers progress, these stimulating job characteristics are likely to increase. However, equally important in explaining employees' responses to low levels of these stimulating job characteristics is the subjective (relativistic) element of time. Here, employees perceive their present involvement in less stimulating jobs as transitory in nature, as a stepping stone toward a future of involvement in more stimulating jobs (e.g., Fried & Slowik, 2004). This psychological definition of the present involvement in simple work as a step along the path toward a future of stimulating work may serve as a psychological resource for maintaining high motivation and performance.

It is worth noting that employees' reactions to less stimulating jobs will depend on the degree to which the actual time duration of the 'transitory' present corresponds to the normative time duration socially constructed by the job or profession (Fried & Slowik, 2004). For example, working as a waiter might be considered acceptable only if it is done for a number of years during college. Similarly, the social norm for promotion in accounting firms may be a few years, whereas in contrast, normative training time for management trainees may be just a few months. Pursuing a less stimulating job longer than the social norm—for example, because of lack of ability to find a job after graduation—is expected to adversely affect the individual's approval of the situation and his/her motivation and satisfaction (e.g., Fried & Slowik, 2004). These arguments illustrate the value of considering both objective and subjective time, and the degree of correspondence between them, as influences on employees' reactions to job design.

Reciprocal relations among job characteristics, attitudinal reactions, and job crafting

Our discussion offers new implications for understanding the reciprocal, dynamic relationships between job characteristics, attitudinal reactions, and job crafting. Whereas Wrzesniewski and Dutton (2001) positioned job design and job crafting as competing theoretical perspectives, our model links theories of job design and job crafting by examining how the context of time, in the specific case of career dynamics, may influence both employees' reactions to less stimulating jobs and their efforts to craft more stimulating jobs. Our propositions suggest that career dynamics will influence whether employees react favorably to less stimulating jobs, as well as whether they attempt to craft more stimulating jobs. For example, employees who fail to experience internal work motivation and satisfaction due to a lack of stimulation may pursue changes in their job characteristics toward higher complexity, especially if they are high in GNS.

Our propositions also pave the way toward a more complete understanding of the dynamic relationships among job characteristics, attitudinal reactions, job crafting, and individual differences. For example, the JCM treats GNS as a stable individual difference. However, it may be the case that by working in and crafting more stimulating jobs, individuals may actually increase their own GNS (see

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Oldham, 1996). The logic behind this prediction is that individuals find growth enjoyable, and come to value it more strongly as a result. Thus, there may be a reciprocal relationship between GNS and job characteristics. Indeed, there is some support for the role of job characteristics in influencing personality. Brousseau (1978), for example, indicated that jobs high on the core job characteristics were associated with changes in the personality measure of active orientation. Kohn and Schooler (1982) reported that over the long run, self-directed work led to an increase in preference for self-directed activities.

Finally, our propositions may enable researchers to complicate the relationship between knowledge and skill and job characteristics. In today's knowledge-based world, employees' knowledge and expertise have become more vital to their organizations' success than ever before (Lawler & Finegold, 2000). In fact, in high tech operations, the dependence of the organization on employees' knowledge and skills has blurred the line between these employees and the owners of the organizations (cf. Rousseau & Shperling, 2003). This growing importance of employees to the success of their organizations contributes to their increased autonomy and discretion to craft their jobs. However, the ability of employees to improve their level of knowledge and skills—and thus their importance to the organization—is contingent in part on their job characteristics (e.g., Oldham, 1996). Enhanced autonomy is associated over time with the acquisition of new knowledge, skills, and abilities (e.g., Parker et al., 2001; Wall, Jackson, & Davids, 1992). Thus employees with high knowledge and skills are more likely to be engaged in job crafting; at the same time, higher job characteristics are expected to enhance the acquisition of knowledge and skills, which, in turn, would likely contribute to further job crafting efforts.

Boundary conditions

The effect of the context of time in the area of job design may be restricted or enhanced by situational and individual differences. For example, it will be more difficult to pursue job crafting in bureaucratic than non-bureaucratic organizations (Feldman & Bolino, 1996). Similarly, macro economic conditions such as recessions, downsizing, or unemployment may also restrict opportunities for career growth and movement associated with changes in job characteristics, within or across organizations (Hall & Chandler, 2005). Individuals' financial standing will also influence how long they will be able and willing to postpone their career growth toward involvement in enriched jobs. The greater their financial constraints, the less able and willing individuals may be to postpone their career growth (Hall & Chandler, 2005).

We further expect that employees' work orientations—whether they see work as a job, career, or calling (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997)—represent an important boundary condition for our propositions. Individuals with job orientations see work as a means to the ends of earning a paycheck, supporting one's family, and enabling leisure time. Individuals with career orientations see work as a means to the ends of career advancement, status and recognition, challenge, and achievement. Individuals with calling orientations see work as an end in and of itself, as a source of personal meaning and social contribution.

Our first four propositions, regarding career dynamics moderators of the effect of stimulating job characteristics on attitudinal reactions, may be most applicable to individuals with career orientations. Career-oriented individuals are likely to be particularly sensitive to career stages, the instrumentality of their current jobs for promotions, opportunities for career advancement, and occupational advancement norms. In contrast, individuals with job orientations may be less concerned with career dynamics and stimulating jobs, focusing instead on compensation, benefits, and time commitments required.

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Moreover, our final two propositions, regarding career dynamics influences on job crafting to increase stimulation, may be most applicable to individuals with calling orientations. Today's career environment is characterized by more learning cycles associated with career transitions, which lead individuals to face temporary setbacks and failures (Hall & Chandler, 2005; Sitkin, 1992). However, individuals may differ in their reactions to these setbacks and failures, and their ability to overcome them. Calling-oriented individuals, based on their high desire for intrinsically engaging, socially useful work, may be most capable of 'weathering the storm' (see Hall & Chandler, 2005) by crafting their jobs to increase stimulation (Wrzesniewski & Dutton, 2001). Conversely, career-oriented individuals may become more easily frustrated with a lack of stimulation, and job-oriented individuals may be more interested in stimulation outside of work, rather than attempting to craft more stimulating jobs.

Finally, context satisfactions are likely to place boundaries on our model. For example, consistent with leader–member exchange theory (e.g., Graen & Scandura, 1987; Uhl-Bien, Graen, & Scandura, 2000), we argue that when employees are satisfied with their supervisors, they may react more favorably to non-stimulating jobs in the present and become less concerned with crafting more stimulating jobs (see, e.g., Fried, Laurence, & Levi, 2007). The logic for this proposition is that employees who are satisfied with their supervisors are willing to trust their supervisors to promote their career development (Fried et al., 2007; Graen et al., 1986; Uhl-Bien et al., 2000). In contrast, employees who are dissatisfied with their supervisors will be more likely to feel resentful toward them and feel that is necessary to take their career development into their own hands. This discussion begins to highlight several of the important boundary conditions that are likely to limit the explanatory power of our model.

Methodological and practical implications

Methodologically, the above discussion suggests that in future job design research, investigators should collect and analyze data on employees' career dynamics, stages, and expectations. Examining the process of change in job characteristics and employee reactions over time will require longitudinal designs across organizations and occupations. Researchers may also use role-playing and scenario designs to gain initial insight into how temporal career dynamics affect job design reactions and job crafting efforts.

Practically, our paper may have important implications for managers. We suggest that in order to understand employees' reactions to job design, managers must look beyond their effects in the present to gain a deeper understanding of employees' career plans, future expectations, and the degree to which their expectations actually materialize over time. Moreover, managers should attempt to assess their employees' job characteristics over time. This recommendation is based on the expectation that job characteristics may change over time, not only due to formal changes in job responsibilities, but also through active efforts to craft jobs (Wrzesniewski & Dutton, 2001), and through informal negotiations between employees seeking career advancement and their supervisors and peers (Graen & Scandura, 1987).

Additionally, the importance of the subjective element of time to employees' job-related psychological experiences suggests that managers can take active steps to alleviate the negative experiences associated with low job complexity. Employees who are involved in less stimulating jobs may experience a slow time flow. Managers may help alleviate this situation by focusing on social events at work, which will speed subjective time flows and consequently reduce the negative psychological experiences associated with unchallenging jobs. Indeed, there is evidence that breaking days up with pleasant social events can improve subjective time flow experiences (e.g., Fried & Slowik, 2004; Hassard, 1996; Lee & Liebenau, 1999; Roy, 1959) and increase creativity as well (e.g., Amabile, Barsade, Mueller, & Staw, 2005; Elsbach & Hargadon, 2006).

In conclusion, there is a clear need to further consider the impact of the context of time on leading motivation theories in organizational behavior. In the current paper, we have attempted to demonstrate

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how incorporating the context of time in the specific case of careers into the area of job design can improve our understanding of employees' reactions to stimulating jobs and their effort to craft more stimulating jobs. Job design researchers will benefit from incorporating the context of time into their conceptual frameworks, research questions, and study designs.

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Author biographies

Yitzhak Fried is a Professor of Organizational Behavior and Human Resources, in the Management Department, Whitman School of Management, Syracuse University. He received his Ph.D. from the University of Illinois at Urbana-Champaign. His research focus is on the contribution of context in the areas of work stress, job and office design, motivation, performance appraisal, and diversity. His work has appeared in leading journals in the field, including the *Academy of Management Review, Journal of Applied Psychology, Personnel Psychology*, *Journal of Organizational Behavior, Journal of Management, Journal of Occupational and Organizational Psychology, Journal of Occupational Health Psychology, Journal of Vocational Behavior, and Human Relations*. Between 1998 and 2001 he served as the Associate-Editor-in-Chief of the *Journal of Organizational Behavior.*

Adam M. Grant (www.unc.edu/~agrant) is an Assistant Professor of Organizational Behavior at the University of North Carolina at Chapel Hill. He earned his Ph.D. from the University of Michigan in Organizational Psychology and his B.A. from Harvard University magna cum laude with highest honors in psychology and Phi Beta Kappa. His research focuses on job design, work motivation, prosocial and proactive behaviors, and employee well-being, with an emphasis on when and how 'making a difference makes a difference'. He has articles published or in press at a number of major journals, including *Academy of Management Review*, *Journal of Applied Psychology, Organizational Behavior and Human Decision Processes, Research in Organizational Behavior,* and *Organization Science.* His research has earned awards from the National Science Foundation, the American Psychological Association, the Society for Industrial and Organizational Psychology, and the American Academy of Political and Social Science. He is a member of the Editorial Board of the *Academy of Management Journal*.

Ariel Levi (Ph.D., Yale University) is Senior Lecturer in the Department of Business at Wayne State University. He teaches courses in organizational behavior, Human Resource Management, and Organizational Development and change. Dr Levi's research focuses on judgment and decision making at the group and individual level, and on individual reactions to affirmative action and diversity programs. He has published in such academic journals as *Journal of Organizational Behavior*, *Organizational Behavior and Human Decision Processes*, *Journal of Conflict Resolution*, and *Human Relations*, in the areas of judgment, decision making, performance appraisal, and diversity management. He is a member of the Decision Sciences Institute, the Academy of Management, and the Society for Industrial and Organizational Psychology.

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Michael Hadani is an Assistant Professor of management at Long Island University, where he teaches Organizational Behavior and Group Dynamics. He received his Ph.D. in Strategy and Human Resources at Syracuse University. His research focuses on the interaction of governance, non market strategies, family firms and HR.

Linda Slowik is the Program Director of the Masters Program in Industrial/Organizational Psychology and an Assistant Professor at the University of Detroit Mercy, Department of Psychology. She completed her doctorate in Industrial/Organizational Psychology at Wayne State University in 2000. She has published in journals such as the *Academy of Management Review*, *Journal of Organizational and Occupational Psychology, Human Relations, and the Journal of Vocational Behavior*. Her research interests include individual differences as predictors of safety-related outcomes, the role of empowerment in health care settings, the relations between office characteristics and performance and affective outcomes, and the role of time as a context factor influencing motivation.

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